

The Examiner rejected claims 1, 2, 15, 17, 18, 20, 22, 23, 25, and 26 under 35 U.S.C. § 103(a) as being unpatentable over Yoshida et al. in view of Marioni and Miyahara et al.; rejected claims 3, 4, 11, 19, 21, and 28 under 35 U.S.C. § 103(a) as being unpatentable over Yoshida et al. in view of Marioni and Miyahara et al.; rejected claims 6-10 under 35 U.S.C. § 103(a) as being unpatentable over Yoshida et al. in view of Marioni and Miyahara et al. and Tagaya; rejected claim 5 under 35 U.S.C. § 103(a) as being unpatentable over Yoshida et al. in view of Marioni and Miyahara et al. and Zolla; and rejected claims 24 and 27 under 35 U.S.C. § 103(a) as being unpatentable over Yoshida et al. in view of Marioni and Oda et al.

These rejections are respectfully traversed on grounds that each involves both an inaccurate construction of the respective disclosures in the references, and a combining of the references in a manner that is not supported by the teachings of the references, but rather based on the claimed subject matter or subject matter disclosed only in the present application. For example, the Examiner asserts the undesignated and undescribed hole in the rotor 4 of the Yoshida et al. reference is a "through hole." However, the hole does not extend through the axial length of the rotor 4, and as such, is not a through hole as recited in the claims. With respect to the Marioni reference, the Examiner characterizes the "reinforcing means 12" or "epoxy resin" as being "for the purpose of increasing injection pressure and reduced cracking of the magnets," when in fact, there is no such disclosure of this purpose in the Marioni reference. The Examiner's conclusion that would have been obvious to modify the Yoshida et al. motor by using the epoxy reinforcing means of Marioni is clearly not suggested either by the Yoshida et al. or Marioni reference.

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In the rejection of claims 6 - 10 under 35 U.S.C. § 103(a), the Examiner applies the disclosures of Miyahara et. al. and Tagaya to the combination of Yoshida et al. and Marioni. With regard to Miyahara et. al., the Examiner asserts that the electroless metal coat 19 is the equivalent of the recited metal plating, when in fact 19 in Miyahara et al. is a magnetic film. Tagaya merely discloses a permanent magnet with a corrosion resistant electroless plated layer. The Examiner then finds obviousness in combining the references for reasons having nothing to do with the present invention. Use of Oda et al. in the rejection of claims 24 and 27, and in the rejection of claim 14 is similarly flawed by hindsight.

Of the rejected claims, only claims 1, 23, and 26 are independent. Each of these independent claims are amended to define the through hole as having opposite open ends and to clarify the relationship of the axial interengagement length and one end of the through hole. Neither the through hole nor this relationship is disclosed in or suggested by any of the references relied upon by the Examiner. Therefore, claims 1, 23, and 26, and their respective dependent claims should be allowed.

Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims.

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If any extension of time under 37 C.F.R. § 1.136 is required for entry of this response, and not accounted for by an attached request and fee payment by check, please grant such extension and charge the required fee to our deposit account 06-0916.

Respectfully submitted,

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Appendix to Amendment
U.S. Application No. 09/673,750
Filed: October 20, 2000

Amended Claims:

1. (Twice Amended) A rotor for an electric motor, comprising:

a magnet having a rotation axis, said magnet being provided with a through hole having opposite open ends and extending coaxially with said rotation axis;

a shaft fixed concentrically to said magnet, said shaft including a first portion fitted in said through hole, said first portion having an axial interengagement length from one of said opposite open ends that is in engagement with an inside surface of said through hole and is shorter than an axial length of said through hole and a second portion that is not in engagement with an inside surface of said through hole; and

reinforcing means provided at least inside said through hole for securely fixing said shaft in a predetermined position in said magnet.

23. (Twice Amended) A method of producing a rotor for an electric motor, comprising the steps of:

forming a coating on at least an inside surface of a through hole of an annular magnet material having a rotation axis, said through hole having opposite open ends and extending coaxially with said rotation axis;

providing a shaft including a first portion capable of being fitted in said through hole; and

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inserting said first portion of said shaft into said through hole of said magnet until an axial interengagement length of said first portion from one of said opposite open ends, shorter than an axial length of said through hole, is engaged in a tightly press-fit manner with said coating while a second portion of said shaft is not in engagement with said coating.

26. (Amended) A [Method] method of producing a rotor for an electric motor, comprising the steps of:

providing a magnet having a rotation axis and a through hole with opposite open ends extending coaxially with said rotation axis;

providing a shaft including a first portion capable of being fitted in said through hole and a second portion axially adjacent to said first portion for defining a clearance inside said through hole;

inserting said shaft into said through hole of said magnet and fitting said first portion of said shaft in said through hole, until an axial interengagement length of said first portion from one of the opposite ends of the through hole, shorter than an axial length of said through hole, is obtained; and

filling an adhesive in said clearance inside said through hole.